5.8 GHz Outdoor Wireless Ethernet Radios Up To 300 Mbps

These products allow you to build line-of-sight, point-to-point or point-to-multipoint wireless Ethernet connections that link "fringe" IP devices, such as video surveillance cameras or other devices needing robust and secure high data rates.

The radios are packaged in rugged and weatherproof diecast aluminum enclosures and are available in both directional and omnidirectional antenna configurations. Utilizing state of the art MIMO technology, the AW58300 product line achieves very high data rate through a combination of multiple spacial streams and higher level OFDM modulation. The directional flat panel antenna version provides two 90° polarized 23 dBi gain units and is intended to serve in point-to-point bridge configurations or as a subscriber unit in point-to-multipoint connections. The omnidirectional unit provides two 6 dBi gain antennas and is designed to serve as the common access point in point-to-multipoint applications or as a multipoint mesh node.

The AW58300HTA has omnidirectional antennas and serves as the access point in a point-to-multipoint wireless network. The AW58300HTS has directional antennas and serves as a subscriber unit in a point-to-multipoint network in combination with the AW58300HTA. The AW58300HTP-PAIR is a pre-configured matched pair providing a point-to-point bridge.

AvaLAN's products offer the ideal combination of price, range, data rate, security, interference avoidance, quality-of-service, and a simple plug and play set up with minimal user programming required.
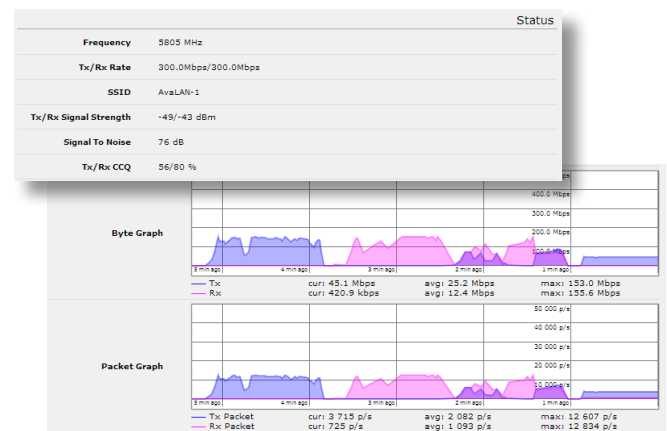
The 5.8 GHz unlicensed band allows a maximum of 4 Watts EIRP for point-to-multipoint configurations, but places no limit on point-to-point. A special pair of flat panel antenna radios are available as a pre-configured matched pair bridge (AW58300HTP-PAIR) for point-to-point fixed connections at 40 Watts EIRP. (Note that the matched pair bridge cannot be separated and used in a point-to-multipoint system because of legal transmit power restrictions.)
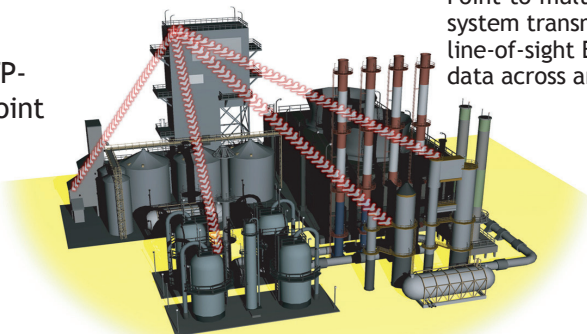
Features

- Up to 300 Mbps RF data rate keeps up with high resolution cameras

- Bridge and star network topologies supported

- 40 MHz RF channel width with 2 non-overlapping channels available

- Maximum legal radiated power (4 Watts EIRP for AW58300HTS, 1 Watt for AW58300HTA) for maximum range and interference penetration

- Even more power in the AW58300HTP-PAIR point-to-point bridge configuration (40 Watts EIRP)

- Data Security provided by AES 128-bit encryption

- Built in browser interface for easy re-configuration and link status monitoring

- Rugged weatherproof cast aluminum NEMA enclosures for outdoor use

- Line-of-sight range up to 15 miles for AW58300HTP-PAIR Bridge, 5 miles for HTA/HTS point-to-multipoint configuration

- Power over Ethernet for single cable installation

Screen Captures:
Web Browser-based Management Tools

	Status
Frequency	5805 MHz
Tx/Rx Rate	300.0Mbps/300.0Mbps
SSID	AvaLAN-1
Tx/Rx Signal Strength	-49/-43 dBm
Signal To Noise	76 dB
Tx/Rx CCQ	56/80 %

Byte Graph

| Tx | cur: 45.1 Mbps | avg: 25.2 Mbps | max: 153.0 Mbps |
| Rx | cur: 420.9 kbps | avg: 12.4 Mbps | max: 155.6 Mbps |

Packet Graph

| Tx Packet | cur: 3 715 p/s | avg: 2 082 p/s | max: 12 607 p/s |
| Rx Packet | cur: 725 p/s | avg: 1 093 p/s | max: 12 834 p/s |

Application Example:

Point-to-multipoint wireless system transmitting line-of-sight Ethernet video data across an industrial plant

Example System diagram

AW58300HTS
Subscriber Unit
(client)

Fixed Camera

AW58300HTA
Access point
(master)

Fixed Camera

AW58300HTS
Subscriber Unit
(client)

Monitoring Computer

AW58300HTS
Subscriber Unit
(client)

PTZ Camera

Technical specifications

CHARACTERISTIC	SPECIFICATION/DESCRIPTION
RF Data Rate	Up to 300 Mbps
Output power AW58300HTA Access Point	1 Watt EIRP with 6 dBi omnidirectional antenna
Output power AW58300HTS Subscriber Unit	4 Watts EIRP with 23 dBi directional antenna
Output power AW58300HTP-PAIR Bridge (each unit)	40 Watts EIRP with 23 dBi directional antennas
Receiver Sensitivity	-115 dBm for HTS and HTP configurations, -101 dBm for the HTA
Frequency Range	5.725 - 5.850 GHz
Channel Bandwidth	20/40 MHz HT Above
RF channels	2 Non-Overlapping with 40 MHz Channel Bandwidth, 5.745 GHz or 5.805 GHz
Modulation	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
Range	Line-of-sight range up to 15 miles for AW58300HTP-PAIR Bridge, 5 miles for HTA/HTS point-to-point configuration
Browser Management Tools	Data Communication Statistics, Network Settings, Channel Selection
Data Security	AES 128-bit
Operating Environment	-40°C to +70°C, sealed for outdoor operation: die cast aluminum package with rubber gasket seals
Mounting	Heavy Duty Pole-Mount Bracket included
Connector	10/100/1000 base T Ethernet RJ-45 with weatherproof sealing gland
Recommended LAN Cable	CAT6a Outdoor/Direct Burial
Power System	Gigabit Power Over Ethernet Injectors and 18 VDC power supplies included: 120 VAC 60Hz primary source
AW58300HTA Antenna	Omnidirectional, 6 dBi gain in horizontal plane, 12" long
AW58300HTA Size	8.75" Square by 3.25" case plus 12" tall antenna, weight 7 lbs
AW58300HTS, HTP Antenna	Integrated 23 dBi flat panel, dual quadrature elements, 15.2" square, 3 dB Beamwidth 8°
AW58300HTS, HTP Size	15.2" by 15.2" by 3.25", not including pole-mount bracket, weight 7 lbs
Warranty	1 Year Parts & Labor, XTRa-Care Extended Warranty 2 Year Extension available at nominal cost
Certification	FCC, IC

Ordering Information

AW58300HTA	AW58300HTS	AW58300HTP-PAIR
5.8 GHz Outdoor 300 Mbps Wireless Ethernet Access Point Radio	5.8 GHz Outdoor 300 Mbps Wireless Ethernet Panel Subscriber Unit	5.8 GHz Outdoor 300 Mbps Wireless Ethernet Bridge
Includes: (1) AW58300HTA Radio (1) Heavy Duty Pole-Mount Bracket (1) AW-POE-RBG Gigabit Power Over Ethernet Injector (1) AW-PS18V 18 VDC power supply (USA plug only)	Includes: (1) AW58300HTS Radio (1) Heavy Duty Pole-Mount Bracket (1) AW-POE-RBG Gigabit Power Over Ethernet Injector (1) AW-PS18V 18 VDC power supply (USA plug only)	Includes: (1) AW58300HTP-AP High Power Access Point Radio (1) AW58300HTP-SU High Power Subscriber Unit Radio (2) Heavy Duty Pole-Mount Brackets (2) AW-POE-RBG Gigabit Power Over Ethernet Injectors (2) AW-PS18V 18 VDC power supplies (USA plug only)